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ABSTRACT

Metrical phonology, a linguistic process of phonological stress assessment and diagrammatic simplification of sentence and word stress, is discussed as it is found in the English language with the intention that it may be used in second language instruction. Stress is defined by its physical and acoustical correlates, and the principles of metrical phonology are outlined, with examples of the underlying syntactic structure of the English sentence. Word stress, a binary feature in metrical phonology, is then examined. It is concluded that the diagrammatic use of metrical trees simplifies the explanation of English stress patterns and their corresponding syntactic foundation, and can be used as a device to enhance understanding and acquisition of both structural and phonological aspects of English sentences. (MSE)

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Metrical Phonology and SLA

By

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CABE Para-educator Conference

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May 2, 1996

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Session II

11:30 a.m.-12:45 p.m.

Bakersfield Convention Center
1001 Truxton Ave.
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Introduction

The lecture will discuss the use of metrical phonology as a linguistic process of phonological stress assessment and diagramatic simplification of sentence and word stress as found in the English language. This is only a general overview and should not be considered a complete view of metrical phonology as it is more involved and complicated than will be presented for this session. The first major work on metrical phonology is by Liberman and Prince (1977) and is a result of the weaknesses inherent in the individual segmental analysis of stress coming from Chomsky and Halle (1968). The goal of this lecture is to promote the use of metrical phonology as a tool for enhancing English stress patterns in words and sentences in both first and second language acquisition students.

Stress

Stress is an isolatable phonological phenomenon defined by both physical and acoustic correlates as represented in the following example (1.0).

(1.0) The goal of the descriptive study of a language is the construction of a grammar.

If we mark the stresses by a using a ' sign, the following will result as given in example (1.1).

(1.1) The 'goal of the des'criptive 'study of a 'language is the con'struction of a 'grammar.

Another stress pattern can be obtained by using stressed (/) and unstressed (x) syllables as a sequence as shown in example (1.2).

(1.2) x/xxx/x/xxx/xxxx/xxx/x

Notice how regular the pattern is and can be generalized as occuring every fourth or fifth syllable. Stress is a property of a string of segments rather than individual segments(Hogg and McCully, 1987:2). Stress is regarded as a suprasegmental phenomenon and is hierarchical in nature as based on the syllable.

Basis of Metrical Phonology

Metrical trees should reflect the syntactic structure of the sentence. Example (2.0) a. and b. illustrates the metrical tree diagrams of the phrases black board and John left

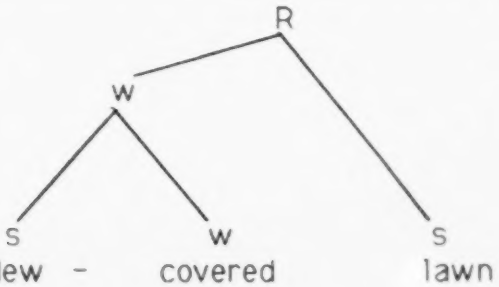
(2.0) a.

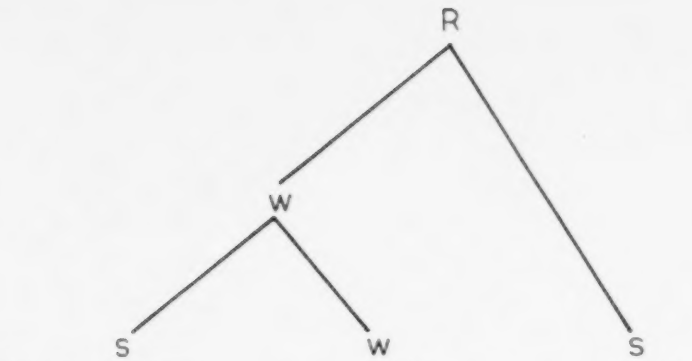
b.

Similar trees can be made for compound words such as stress-shift as in example (2.1).

To show the relative prominence of each constituent in a metrical tree we label each node either s or w, where s means 'stronger than' and w means 'weaker than' as represented in example (2.2) a., b. and c.

These metrical trees are intended to express the relative strength of constituents and is just a matter of denoting the relative prominence of sister constituents(Hogg and McCully, 1987: 65). Metrical trees are always and only binary-branching. Metrical trees follows syntactic structure as depicted in examples (2.3) and (2.4). The symbol R is to denote the root or topmost node of the tree and dominates a constituent, in this case a phrase.





(2.4) coffee - table book

The syntactic structure of example (2.3) can be represented by bracketing [[[dew][covered]][lawn]] as can example (2.4) [[[coffee][table]][book]]. A simple rule to keep in mind is that if one node is marked strong then it follows that the other is weak(Hogg and McCully, 1987: 68).

Word Stress

Word stress in metrical phonology is treated as a binary feature. The internal metrical structure of words is organized syllabically so that monosyllabic words such as bad have one metrical constituent, bisyllabic words such as honest have two metrical constituents and so on. An example of metrical trees for word stress in simple bisyllable words are in example (3.0) a. and b.(Hoggs and McCully, 1987: 76).

(3.0) a.

english

\+ −

b.

baroque

− +

The relative prominence of the two syllables (vowels) are preserved in the metrical tree structure. Another rule that can be used in metrical phonology is that if a vowel is s (strong), then it is +stress and if a vowel is w (weak), then it is -stress(Hogg and McCully, 1987:77). An example is elephant as depicted in example (3.1).

(3.1)

elephant

\+ − −

Summary

Although this is only a general overview of metrical phonology and does not take into account rhythm and the metrical grid or metrical tree, it is clear that the diagramic use of metrical trees does simplify the explanation of English stress patterns and the corresponding syntactic foundation underlying these patterns and can be used as a simple device to enhance the understanding and acquisition of both sentence and phonological aspects of the English language.

References

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Liberman, M. & A. Prince. 1977. On stress and linguistic rhythm. L.In. 8:249-336.